DRAFT FOR COMMENTS

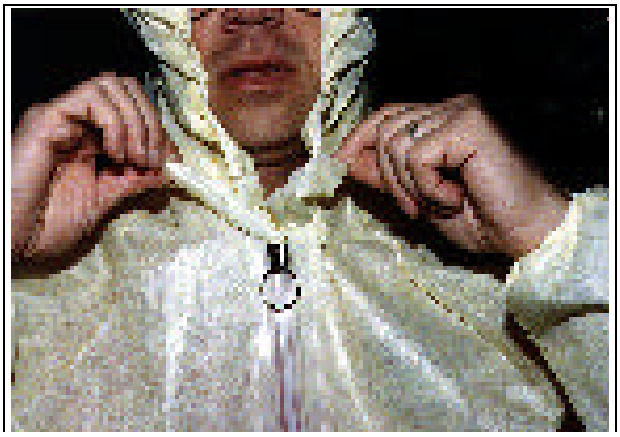
Technology Demonstration Summary Sheet
FRHAM-TEX Anti Contamination Suit

THE NEED

Protective clothing will need to be worn during decontamination activities, but the clothing needs to be comfortable as well as strong. Heat stress during strenuous activities can reduce worker effectiveness as well as his health. Anti-Contamination suits are designed to help remove excess body heat and to be strong and waterproof.

THE TECHNOLOGY

The suit demonstrated was the FRHAM-TEX COOL suit, supplied by FRHAM Safety Products. This suit is a one piece, disposable, breathable, waterproof coverall. It is constructed of spun-bonded material that is then bonded to a Butylene/Poly hydrophilic film. The suit has a waterproof, leakproof zip-lock closure system. It is certified incinerable. The suit was compared with the baseline technology which is a suit made with TYVEK material.



Zip-lock Closure System

THE DEMONSTRATION

The demonstration was performed at the Argonne National Laboratory (ANL) Janus reactor in August 1997, as part of a D&D contract with Afftrex LTD. The demonstration lasted over four days, from August 4 through August 7, 1997. The work consisted of breaking up concrete with a 90 pound jackhammer and then moving the pieces to a container. The work area contained scaffolding that the workers had to climb on, over and around during the course of their work. Air conditioning was used to reduce the heat load in the area. The temperature was 68°F and the humidity was 50%. Full Face respirators were worn during the work. Tyvek suits were worn as a baseline with a set of blue scrubs as modesty garments under the suit. Two men performed both tasks (operating the jackhammer and moving the pieces of concrete) with each suit.

THE RESULTS

A questionnaire was used to obtain information from the workers about the FRHAM-TEX suit compared to the baseline. The results are based on personal opinions rather than quantitative results. Both workers said that the seams of the FRHAM-TEX suit were strong and did not rip while donning or doffing. With one worker, the material separated at a point on the upper leg where the jackhammer handle rested against the leg, however, the suit did not rip. Both workers said that the FRHAM-TEX suit was hotter than the baseline suit. The workers said that the suit was roomier than the baseline and allowed for easier movement during work.

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